

2/2 014

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125441

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE SCREENING PROGRAM FOR NEW ANTIBIOTICS A STRAIN DESIGNATED AS MICROMONOSPORA CHALCEA 845 WAS ISOLATED FROM A SOIL SAMPLE TAKEN IN A DISTRICT NEAR MOSCOW. A NEW ANTIBIOTIC OF POLYPEPTIDE NATURE NAMED CHALCIDIN WAS ISOLATED FROM THE CULTURE FLUID OF THE STRAIN. CHALCIDIN HAD A SLIGHT CHEMOTHERAPEUTIC EFFECT WITH RESPECT TO STAPHYLOCOCCAL INFECTIONS IN EXPERIMENTS ON MICE. FACILITY: INSTITUTE FOR NEW ANTIBIOTICS, ACADEMY OF MEDICAL SCIENCES OF THE USSR, MOSCOW,

UNCLASSIFIED

1/2 015 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--THE SIGNIFICANCE OF RHEOVASOGRAPHY IN THE ASSESSMENT OF THE
FUNCTIONAL STATE OF THE ARTERIAL VESSELS --U--
AUTHOR--(02)--MAKSIMOVA, T.V., VOROBYEVA, T.A.
COUNTRY OF INFO--USSR
SOURCE--EKSPERIMENTAL'NAYA KHIRURGIYA I ANESTEZIOLOGIYA, 1970, NR 3, PP
44-49
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--DIAGNOSTIC METHODS, ARTERY, BLOOD VESSEL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3003/0122 STEP NO--UR/0481/70/000/003/0044/0049
CIRC ACCESSION NO--AP0129378
UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0129378

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. RHEOVASOGRAPHY WAS USED FOR ASSESSMENT OF THE FUNCTIONAL STATE OF ARTERIES. ANALYSIS OF RHECVASOGRAMS IN 300 PATIENTS WITH FUNCTIONAL CHANGES OF SRTERIAL TONUS AND IN 40 HEALTHY INDIVIDUALS (CONTROL) ENABLED TO DETECT 4 TYPES OF TONIC STATE OF ARTERIES OF THE LIMBS: NORMAL TONUS, ARTERIAL SPASH, HYPOTCNIA AND ATONIA AND ARTERIAL DYSTONIA. RHEOVASOGRAM CHANGES IN FUNCTIONAL TESTS IN PATIENTS WITH DIFFERENT INITIAL STATE OF ARTERIAL TONUS ARE DESCRIBED. DEPENDANCE OF THE TYPE OF CHANGE OF ARTERIAL TONUS ON ITS INITIAL STATE IS STRESSED. POSSIBILITY OF SUSTAINED OBSERVATION OF THE FUNCTIONAL STATE OF THE COLLATERALS WITH THE AID OF RHEOVASOGRAPHY IS UNDERLINED. FACILITY: SOSUDISTOYE OTDELENIYE INSTITUTA KHIRURGII IM VISHNEVSKOGO AMN SSSR, MOSKVA.

UNCLASSIFIED

MAKSIMOVA, Y. Terentyev

CUBA

ROUTED FROM YRA
TO: 452A

STUDY ON THE INFLUENCE OF BLACK LIQUOR RECIRCULATION IN ALKALINE EXTRACTION
PROCESSES OF NITRATED BAGASSE

(Abstract of paper by Maksimova, Y. Terentyev, P. López; Havana, Cuba Azuara,
English, July-September 1972, p. 80)

In the process of obtaining d-cellulose from sugar cane bagasse by
sulfuric acid pulping, the amount of NaOH used is one of the principal factors
that influence the product cost.

One way of reducing the amount used is by recirculating the alkaline
black liquor produced during the process. This paper furnishes experimen-
tal results concerning the influence of recirculated liquor characteristics
on the product quality, as well as basic data for process design. Results
are expressed in form of regression equations.

CSO: 4202-P

REF: 581 46-2 Date: 7 MAR 73
Trans. on 4-10-73
LA

USSR

UDC 631.547:635.9

MAKSIMOVA, YE. V., NEUPOKOYEVA, N. K., Tree Planting and Land-scaping Sector, Rostov Scientific Research Institute of the Academy of Municipal Services imeni K. D. Pamfilov

"Effect of Plant Growth Regulators on the Yield of Low Sage and China Aster"

Moscow, Khimiya v sel'skom khozyaystve, Vol 9, No 8, 1971, pp 45-46

Abstract: Floral cultures are regarded as having a low value for farming; as a result, floral-seed crops on the farms in the southwest zone of RSFSR are generally one half to one third of crops elsewhere. High-quality seeds may be produced with the aid of plant growth regulators. The diversity of data on this subject necessitates specific requirements for individual cases with due regard for the biological characteristics of a given floral culture. This study concerns the transplant cultivation of low sage (*Salvia Splendeus*) and China aster (*Callistephus chinensis*) and application of heteroauxin potassium alpha-naphthoate (KANU) maleic acid hydrazide (GMK) and chlorocholine chloride (CCC) in various

USSR

MAKSIMOVA, YE. V., et al, Khimiya v sel'skom khozyaystve,
Vol 9, No 8, 1971, pp 45-46

concentrations as plant growth regulators. Low sage was treated with heteroauxin (0.01 and 0.001%), GMK (0.03 and 0.04%) and CCC (0.1 and 0.01%) in the full blooming stage. The experimental results indicate GMK and CCC as most effective growth regulators for low sage. The seed crop increased almost two-fold. Besides, the absolute weight of the seeds was 30% higher. China aster was treated with KANU (0.01 and 0.001%), heteroauxin (0.03 and 0.04%), GMK (0.03 and 0.04%) and CCC (0.1 and 0.01%). Most effective was the treatment of China aster in the full blooming stage with CCC (0.1%) and GMK (0.03%). The former increased the seed crop by a factor of 1.9 (against the control plant) and the latter--by a factor of 1.8. The absolute weight of the seeds was 8-10% higher. Treatment of floral plants with growth regulator was found to have a positive effect on both the vegetative and generative organs.

2/2

USSR

UDC 576.851.46.095.162

MAKSIMOVA, Z. Ya., and GROSHEV, A. G., Moscow Institute of Vaccines and Sera
Imeni Mechnikov

"Lyophilization of H. Pertussis. Report I. A Study of the Resistance of
H. Pertussis to Lyophilization"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 11, 1971,
pp 150-151

Abstract: Twenty standard and industrial strains of H. pertussis were frozen at -50°C, vacuum-dried for 24 hrs, and stored in sealed ampules at 5, 18, 36, and -35°C. After various periods, the samples were analyzed for survival, morphological and serological properties, virulence, and immunogenicity. After lyophilization in physiological saline, only 3.7% of the cells survived. In a medium composed of 10% sucrose and 1% gelatin, the survival rate was 55.9%. Most cells, 27-66%, died during the first 1-3 months of storage. Subsequently, the death rate decreased considerably, especially at low storage temperatures. At the end of 18 months, all investigated biological properties of the surviving cells were identical with control values. It is concluded that H. pertussis is highly resistant to lyophilization and that this method yields effective dry cultures.

1/1

USSR

UDC 539.376:014.12

MAKSIMOVICH, G. G., and LYUTYY, YE. M., Physicomechanical Institute, Academy of Sciences Ukrainian SSR, L'vov

"Effect of Test Temperature on the Nature of Strain Hardening of Type Kh18N9T Steels"

Kiev, Fiziko-Khimicheskaya Mekhanika Materialov, Vol 10, No 1, 1974, pp 101-103

Abstract: The relationship of critical temperature to magnitude of prestressing was established for microsamples of steel Kh18N9T at 20° C in air and at 500, 640, 800 and 950° C in a medium of purified argon. Prior to testing, the samples were vacuum annealed at 1100° C for 1.5 hours. It was found that test temperature has a significant effect on tensile, yield, and long-time strengths of the steel with respect to prestressing magnitude. As the coefficient of prestressing increases, the critical temperature for respective strength decreases, and the longer samples remain at test temperatures the lower their critical temperature, although the lowering of critical temperature doesn't start until the coefficient of prestress reaches 0.6. Three figures, four bibliographic references.

1/1

USSR

UDC: 539.5

Drozd, N. P., Ivashchenko, R. K., ~~Maksimovich, G. G.~~, Mil'man, Yu. V.,
Slenzak, G. Ye., Trefilov, V. I., Kiev-L'vov

"Studies of Stability of the Structure and Mechanical Properties of Molybdenum
Under Long-term Temperature and Stress"

Kiev, Problemy Prochnosty, No 4, Apr 72, pp 68-75.

Abstract: The influence of long-term application of temperature and stress on the structural stability and mechanical properties of molybdenum-based low alloys with preliminary formation of cellular structure is studied. It is shown that changes in mechanical properties of deformed molybdenum alloy during annealing under load are determined basically by the annealing temperature, not by the load or holding time at the temperature, within the temperature range studied (800-1000°C). The action of the load during annealing of deformed molybdenum causes no significant increase in temperature of transition to the brittle state. The introduction of dispersed second phase particles allows reliable stabilization of the cellular structure in molybdenum at 1000°C with significant loads over long periods of time. If annealing of deformed molybdenum is performed in the temperature interval in which primary recrystallization occurs, additional application of loads during annealing can slightly increase the recrystallization rate and decrease strength characteristics.

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- 46 -

USSR

UDC: 620.178.38

MAKSIMOVICH, G. G., DROZD, N. P., YANCHISHIN, F. P., and KUDLAK, S. M.,
~~Institute of~~ Institute of Physico Mechanics, Academy of Sciences Ukrainian SSR, L'vov

"Effect of Vacuum on the Structure and Certain Mechanical Characteristics of
08kp Steel"

Kiev, Fiziko-Khimicheskaya Mekhanika Materialov, No 2, 1971, pp 115-118

Abstract: Results are presented of a study of the effect of a vacuum of 10^{-6} , 10^{-5} , and 10^{-3} torr on the structure, hardness, and ductility of 08kp steel subjected to long-term loading at high temperatures (400, 600, and 800° C). The experiments showed that at high temperatures, the ductility of specimens tested under identical conditions at 10^{-6} torr was somewhat greater than at 10^{-3} torr. The hardness of the specimens which did not rupture during the 500 hours of the test at high temperatures under a vacuum of 10^{-6} torr was less than the hardness of specimens tested under the same conditions at 10^{-3} torr. The long-term strength of specimens at high temperatures and 10^{-6} torr decreases similarly. The increased ductility of specimens at high temperatures and high vacuum is explained by the less intensive process of oxidation of specimens. The higher values of hardness and long-term strength at the lower vacuum may result from more significant oxidation of the surface layers of the metal than at 10^{-6} torr.

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1/2 018
UNCLASSIFIED
PROCESSING DATE--27NOV70
TITLE--ON ESTIMATING THE STABILITY OF THE PROPERTIES OF MATERIALS -U-
AUTHOR--MAKSIMOVICH, G.G. M
COUNTRY OF INFO--USSR
SOURCE--FIZ. KHIM. MEKHAN. MAT., 1970, 6, (2), 11-13
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--MECHANICAL STRENGTH, STABILITY CONSTANT, CHROMIUM NICKEL
STEEL, METAL CREEP
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3002/1672 STEP NO--UR/0369/70/006/002/0011/0013
CIRC ACCESSION NO--AP0129042
UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0129042

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. METHODS OF ESTIMATING THE STABILITY OF THE MECHANICAL AND OTHER PROPERTIES OF METALS SUBJECTED TO PROLONGED LOADING IN INERT AND CORROSIVE MEDIA ARE DESCRIBED AND DISCUSSED AND SPECIAL EXAMPLES ARE GIVEN FOR THE CASE OF CR,NI STEELS. THE RESULTS OF SUCH TESTS SHOW THAT THERE IS NO ONE TO ONE RELATIONSHIP BETWEEN THE BOUNDARIES OF STABILITY OF INDIVIDUAL PROPERTIES AND THE STANDARD CREEP CURVES, ALTHOUGH SOME GENERAL CORRESPONDENCE MAY BE EXPECTED.

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UDC 620.178.1:669.15

MAKSIMOVICH, G. G., NAGIRNYI, S. V., LYUTYY, YE. M., and IGNATYI, M. I.,
Institute of Physico Mechanics, Academy of Sciences Ukrainian SSR

"Change in the Fine Structure of 1Kh18N9T Steel After Extended Stressing in Molten Lithium"

L'vov, Fiziko-Khimicheskaya Mekhanika Materialov, No 3, May-June 70, pp 67-70

Abstract: A study was made of dislocation structural changes occurring in 1Kh18N9T steel when it is immersed in molten lithium under stress. Both the surface (less than 50 microns) and center of the steel samples were studied after holding the samples in lithium at temperatures of 500 and 650°C under stress.

A low dislocation density ($10^4/\text{cm}^2$) was noted in the initial samples, and the dislocation distribution was not uniform. Small masses of dislocations were noted near the grain boundaries and near the twin boundaries, as well as near a different site of inclusions and stacking faults. A large portion of the sample cross section was free of dislocations. After holding samples at 500°C for 100 hours, dislocation density was reduced further ($10^5/\text{cm}^2$), and was concentrated primarily between the carbides. Slip traces of dislocation groups and some growth of carbides in the dislocations were detected. Holding samples in lithium for 100 hours at 500°C under a stress of 17 kg/mm² caused a significant increase in dislocation

1/3

USSR

MAKSIMOVICH, G. G., Fiziko-Khimicheskaya Mekhanika Materialov, No 3, May-June 70, pp 67-70

density. In the sample center, dislocation density was much higher than in the surface layer and they formed complex and tightly joined masses, especially around precipitated constituents. In the surface layer, dislocations were grouped around coarse carbides, where individual dislocation loops and lattices were observed close to large carbides and grain boundaries.

For samples held in lithium for 100 hours at 650°C under a load of 11.9 kg/mm² the fine structure was similar to that described above--as to dislocation distribution. In this case the dislocation density gradient in the surface layers and in the center of the samples was much larger than at 500°C. In the sample centers growth of both small and large carbide chains was noted while around the precipitated particles there was a dense, barely discernible dislocation lattice. In the surface layers there were fewer carbides, lower dislocation density, and a more uniformly distributed dislocation density. Individual dislocations interacted to form dislocation loops, and there were large areas free of dislocations. Near the grain boundaries a true dislocation lattice is formed. Moreover, twins were noted which in the center zone of the sample were surrounded by dense dislocation masses. Dislocations were absent in the surface layer.

2/3

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MAKSIMOVICH, G. G., et al, Fiziko-Khimicheskaya Mekhanika Materialov, No 3,
May-June 70, pp 67-70

From the above-described observations it was deduced that molten lithium dissolves the oxide film on the sample surface and dissolves impurities and inclusions in 1Kh18N9T steel as a result of which the number of barriers retarding dislocation movement to the surface is diminished.

3/3

172 033 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--METHOD OF DETERMINING THE PLASTIC DEFORMATION OF MICRO SAMPLES
SUBJECTED TO TENSILE STRAIN -U-
AUTHOR-(03)-MAKSIMOVICH, G.G., PAVLINA, V.S., LYUTY, E.M.
COUNTRY OF INFO--USSR
SOURCE--FIZ. KHIM. MEKHAN. MAY., 1970, 6, (1), 69-72
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, METHODS AND EQUIPMENT
TOPIC TAGS--RHEOLOGIC PROPERTY, PLASTIC DEFORMATION, TEST METHOD,
STAINLESS STEEL, ALUMINUM ALLOY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3003/0210 STEP NO--UR/0369/70/006/001/0069/0072
CIRC ACCESSION NO--AP0129466
UNCLASSIFIED

2/2 033

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0129466

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ON THE BASIS OF AN APPROX. SOLUTION OF THE GENERAL ELASTIC PLASTIC PROBLEM ENCOUNTERED WHEN ANALYSING THE RHEOLOGICAL PROPERTIES OF MATTER, A FORMULA RELATING THE SMALL RESIDUAL DEFORMATION (STRAIN) IN THE WORKING PART OF A METAL SAMPLE SUBJECTED TO TENSILE STRAIN TESTS TO THE EXPERIMENTALLY MEASURED ELONGATION IS DERIVED. EXPERIMENTAL TESTS WITH ARMCO FE, STAINLESS STEEL, AND AL ALLOY SAMPLES CONFIRM THE VALIDITY OF THIS FORMULA. A NOMOGRAM FACILITATING RAPID PRACTICAL USE OF THE FORMULA IS PRESENTED.

UNCLASSIFIED

1/2 018 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--STRUCTURE AND PROPERTIES OF STEEL 08KP AFTER PRELIMINARY LOADING
UNDER STRAIN -U-
AUTHOR--(04)-MAKSIMOVICH, G.G., YANCHISHIN, F.P., MOSEYCHUK, V.I.,
BARANETSKIY, V.S.
COUNTRY OF INFO--USSR
SOURCE--FIZ.-KHIM. MEKH. MATER. 1970, 6(1), 19-25
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--ALLOY DESIGNATION, STRAIN, MECHANICAL PROPERTY, ELECTRIC
RESISTANCE, RESISTIVITY, RIMMED STEEL, LOW CARBON STEEL/1008KP RIMMED
STEEL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3001/0401 STEP NO--UR/0369/70/006/001/0019/0025
CIRC ACCESSION NO--AP0126156
UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0126156

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A STUDY OF THE EFFECTS OF THE PRELIMINARY LOADING UNDER STRAIN ON THE STRUCTURE AND PROPERTIES OF STEEL 08KP IS GIVEN. THE EXPTS. WERE CARRIED OUT ON WELL ANNEALED (1 HR AT 930DEGREES IN VACUUM AND FURNACE COOLED) AND POLISHED SPECIMENS; PRELIMINARY LOADING WAS CARRIED OUT IN AIR AT ROOM TEMP. BY APPLYING STRAINS SIGMA SUBP EQUALS 0, 5, 10, 15 AND 25 KG-MM PRIME2 DURING 100 HR. THE STRUCTURE OF THE PRELIMINARY LOADED SPECIMENS DIFFERS FROM THAT OF THE INITIAL (NONLOADED); FERRITE GRAIN SIZE IS DECREASED; NEW SUBGRAIN BOUNDARIES ARE FORMED, AND THE SLIP BANDS ARE VISIBLE. VICKERS HARDNESS REMAINS FOR SIGMA SUBP SMALLER THAN 10 KG-MM PRIME2 PRACTICALLY UNAFFECTED WHILE FOR SIGMA SUBP GREATER THAN 10 KG-MM PRIME2 IT INCREASES AND FOR SIGMA SUBP EQUALS 25 KG-MM PRIME2 REACHES AN INCREASE OF 35PERCENT. ELEC. RESISTIVITY FOR SMALL SIGMA SUBP (SMALLER THAN 10 KG-MM PRIME2) DECREASES AND REACHES A MIN. (SIMILAR TO 3PERCENT), BUT RISES WITH FURTHER INCREASE OF SIGMA SUBP. PRELIMINARY LOADING WITH SIGMA SUBP EQUALS 25 KG-MM PRIME2 INCREASES ALSO THE TENSILE STRENGTH 27PERCENT AND YIELD STRENGTH 54PERCENT. THE STRUCTURE OF THE PRELIMINARY LOADED SPECIMENS IN THE FRACTURE ZONE IS FINE GRAINED WHILE FOR THE INITIAL (NONLOADED) SPECIMENS THE STRUCTURE IS COARSE GRAINED.

FACILITY: FIZ.-MEKH. INST., LVOV, USSR.

UNCLASSIFIED

USSR

UDC 616.2-022.12.12-097:543.426

MAKSIMOVICH, N. A.; BUZHIYEVSKAYA, T. I.; VASINA, A. G.;
GILEVICH, E. V.; Kiev Scientific Research Institute of Infec-
tious Diseases, Ukrainian SSR Ministry of Public Health

"Experimental Use of Immunofluorescence in the Study and
Diagnosis of Respiratory Viral Infections"

Kiev, Vrachebnoye Delo, No 4, Apr 71, pp 143-147

Abstract: Data were collected on the use of immunofluorescence in the etiological diagnosis of acute respiratory infections. During 1964-1968, data from 4,035 patients and 101 autopsies were collected (3,495 cases in the interepidemic period and 540 cases in influenza foci, foci of parainfluenza, and adenovirus diseases). The material chosen for the study must contain a sufficient quantity of cells sensitive to the viruses to be studied. Smears from the mucous membranes of the nose and from nasopharyngeal washings were studied by phase-contrast and luminescence microscopy. Some photomicrographs of cells of the columnar epithelium are shown. Cells were treated with polyvalent influenza and parainfluenza globulins labeled with
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USSR

MAKSIMOVICH, N. A., et al, Vrachebnoye Delo, No 4, Apr 71, pp 143-147

fluorescein isothiocyanate, with anti-adenovirus rabbit serum and with antirabbit globulin labeled with fluorescein isothiocyanate. The specific luminescence of the centrosphere, the nuclear membrane, and cytoplasm was studied. A tropism of influenza, parainfluenza virus and adenoviruses for epithelial cells of the human respiratory tract was found. A seasonal character of influenza and parainfluenza infections was observed: a certain rise in the incidence of infections was found in the January-March and October-December period. Sporadic outbreaks of acute respiratory diseases were relatively rare (up to 2%) during the summer months. Adenovirus infections, on the other hand, did not exhibit any pronounced seasonal character. In some cases, mixed influenza-adenovirus infections were observed. The virus was localized only in cells lining the trachea, the smaller branches of bronchi and bronchioles, or it was detected only in impressions from the lungs in cadavers.

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-- 14 --

1/2 010 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--GN EVALUATION OF USE OF CHICK EMBRYOS AND CELL CULTURES FOR
DIAGNOSIS OF DISEASES CAUSED BY EPIDEMIC PAROTITIS VIRUS -U-
AUTHOR-(02)-LIKHTOROVICH, S.A., MAKSIMOVICH, N.A.
COUNTRY OF INFO--USSR
SOURCE--VOPROSY VIRUSOLOGII, 1970, NR 3, PP 361-366
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--CELL CULTURE, VIROLOGY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/1838 STEP NO--UK/0402/70/000/003/0361/0366
CIRC ACCESSION NO--AP0125449
UNCLASSIFIED

2/2 010
CIRC ACCESSION NO--AP0125449

UNCLASSIFIED

PROCESSING DATE--30OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BASED ON THE STUDIES AND COMPARISONS OF VIROLOGICAL AND MORPHOLOGICAL CHARACTERISTICS, IT IS DEMONSTRATED THAT THE METHOD OF INOCULATION OF CELL CULTURES FOR ISOLATION OF EPIDEMIC PAROTITIS VIRUS FROM PATIENTS IS MUCH LESS EFFECTIVE THAN INOCULATION OF CHICK EMBRYOS. IN THE AUTHORS' OPINION, THE MAIN ABSTACKE FOR APPLICAITON OF CELL CULTURES FOR DIAGNOSTIC PURPOSES CONSISTS IN THE SPECIFICITY OF THE CYTOPATHIC EFFECT OF THE VIRUS. FACILTIY: INSTITUT INFEKTSIONNYKH BOLEZNEW MINISTERSTVA ZDRAVCOKHRANENIYA UKRAINSKOY SSR, KIEV.

UNCLASSIFIED

USSR

UDC 576.858.4.085.23

MAKSIMOVICH, N. O., GILEVICH, Ye. V., VASINA, A. G., PERVACHENKO, S. V., and RYBINSKAYA, L. N., Kiev Scientific Research Institute of Infectious Diseases

"Changes in Cells Induced by Certain Parainfluenza Viruses"

Kiev, Mikrobiologicheskii Zhurnal, Vol 32, No 4, Jul/Aug 70, pp 466-472

Abstract: The cytopathic effects of types I, II, and III parainfluenza viruses on primary trypsinized monkey kidney cultures were studied. Enlargement of the nuclei and nucleoli, accumulation of RNA protein in the nucleoli and cytoplasm, disintegration of the chromatin and further changes in the shape of the nucleus, and formation of symplasm (varying according to the infectious dose of virus per cell) were observed. Eosinophilic inclusions in the cytoplasm were common but are not specific to viral infection of cells, since they appear in noninfected cultures as well. Immunofluorescence revealed the presence of viral antigen in the infected cells only during the first 3 days following inoculation. In 1- and 2-day-old mice, the epithelial cells of the respiratory tract showed marked proliferation, desquamation, and formation of cells with 3 and 4 nuclei. The perinuclear part of the cytoplasm fluoresced during the first 3 days after infection. The prolonged survival of the culture after infection 1/2

USSR

MAKSIMOVICH, N. O., et al, Mikrobiologicheskii Zhurnal, Vol 32, No 4, Jul/Aug 70, pp 466-472

was evidence of the weak cytotoxic effect of the parainfluenza viruses. This phenomenon was most pronounced in the symplasm, causing it to decrease and then disappear within 4 days.

2/2

- 18 -

Pharmacology and Toxicology

USSR

UDC 615.217.34-015

MAKSIMOVICH, Ya. B., and KRESYUN, V. I., Department of Pharmacology, Odessa Medical Institute

"Nicolit as a Psychotropic Agent"

Kiev, Vrachebnoye Delo, No 8, 1973, pp 99-101

Abstract: Studies were conducted on a new organic compound of lithium and nicotinic acid (nicolit). Animal studies showed nicolit to possess low toxicity and exert a definite tranquilizing effect; the latter was ascribed to depression of metabolic processes in structures of the limbic system and in cortical structures. Over 90 experiments on 245 healthy human subjects showed that a dose of 100 mg singly administered increased emotional stability and decreased neuropsychological tension with consequent improvement in psychomotor work capability. No side effects were noted. These studies support the contention that metabolites evidence high pharmacologic effectiveness and low toxicity.

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USSR

UDC: 681.3.06:51

VORONOV, A. A., MAKSIMTSOV, M. M., POMERANTSEVA, I. V.

"Problems in Organizing Blocks of Information in the Planning of Atomic Power Installations"

V sb. Teoriya i praktika mashin. obrab. ekon. inform. (Theory and Practice in the Computer Processing of Economic Information--collection of works), Moscow, 1971, pp 65-72 (from RZh-Kibernetika, No 7, Jul 71, Abstract No 7V722)

[No abstract]

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USSR

UDC 539.67

ZEMUDSKIY, A. Z., MIKHALKO, V. D., and MAKSIMYUK, P. A.

"Investigation of Internal Friction in Al-Mg-Li Alloys"

Sb. "Vnutrenneye treniye v metallicheskih materialakh" (Internal Friction in Metallic Materials), Moscow, Izd-vo "Nauka", 1970, pp 54-56

Abstract: An investigation was made of the internal friction and natural vibration frequency square f^2 for an Al + 10% Mg + 2% Li alloy by the method of a low-temperature twisted pendulum.

The magnitude of activation energy was calculated and the behavior of a 70° peak under the effect of cold hardening was investigated. Conclusions regarding the possibility of the penetration of lithium atoms into the aluminum are presented. 4 figures, 5 references.

1/1

- 64 -

1/2 046 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--SPECTRAL DEPENDENCE OF A CHANGE IN YOUNG'S MODULUS FOR GERMANIUM
DURING IRRADIATION -U-
AUTHOR-(02)-MAKSIMYUK, P.A., USHANKIN, YU.V.
COUNTRY OF INFO--USSR
SOURCE--FIZ. TEKH. POLUPROV. 1970, 4(2), 426-8
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--YOUNG MODULUS, GERMANIUM SEMICONDUCTOR, PHOTOCONDUCTIVITY,
RADIATION EFFECT, CARRIER DENSITY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1988/0280 STEP NO--UR/0449/70/004/002/0426/0428
CIRC ACCESSION NO--AP0105354
UNCLASSIFIED

2/2 046

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0105354

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SPECTRAL RANGE WAS DETD. FOR WHICH A CHANGE IS OBSD. IS YOUNG'S MODULUS, ΔE IN N-GE DURING ILLUMINATION, AND IT WAS COMPARED WITH THE SPECTRAL RANGE FOR NATURAL PHOTOCOND. AN APP. IS DESCRIBED WHICH ALLOWS THE CHANGE IN ΔE AND THE PHOTOCOND. TO BE DETD. ON THE SAME SAMPLE UNDER IDENTICAL CONDITIONS. ΔE OCCURS IN THE SAME RANGE AS THE NATURAL PHOTOCOND., AND THE MAX. ON BOTH CURVES COINCIDE WITHIN THE LIMITS OF EXPTL. ERROR. ΔE IS DUE TO A CHANGE IN THE CONC. OF FREE CHARGE CARRIERS. FACILITY: KIEV. GOS. UNIV. IM. SHEVCHENKO, KIEV. USSR.

UNCLASSIFIED

1/2 020 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--NEUTRON DIFFRACTION STUDY OF AN ALUMINUM AND LITHIUM ALLOY -U-
AUTHOR--(04)-NOZIK, YU.Z., LIPIN, YU.V., MAKSIMYUK, P.A., MIKHALKO, V.D.
COUNTRY OF INFO--USSR
SOURCE--LATV. PSR ZINAT. AKAD. VESTIS, FIL. ZINAT. SER. 1970, (1), 88-90
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--LITHIUM ALLOY, ALUMINUM ALLOY, MODEL, CRYSTAL STRUCTURE
ANALYSIS, NEUTRON DIFFRACTION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1988/0609 STEP NO--UR/0371/70/000/001/0088/0090
CIRC ACCESSION NO--AP0105592
UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0105592

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN AL-LI ALLOY CONTG. 4 WT. PERCENT LI (AL SUBO TIMES 84 LI SUB O TIMES 16) WAS INVESTIGATED BY NEUTRON DIFFRACTION AND SHOWED, BESIDES THE BASIC LINES CORRESPONDING TO THE PURE AL STRUCTURE, 2 SUPERSTRUCTURE LINES, (100) AND (110), CORRESPONDING TO THE LI ATOMS. THE INTERPRETATION OF THE (100) AND (110) PEAKS LEADS TO 2 MODELS OF LI AT. ARRANGEMENT IN THE AL STRUCTURE: AN OCTAHEDRAL MODEL WITH 111 OVER 222 COORDINATES AND A TETRAHEDRAL MODEL WITH 111 OVER 444 COORDINATES. THE LI ATOMS OCCUPY THE OCTAHEDRAL POSITIONS IN THE FCC. LATTICE OF AL. THE INSUFFICIENT SHARPNESS OF THE (100) AND (110) PEAK INTENSITIES, DUE TO THE SMALL AMT. OF LI IN THE ALLOY, DOES NOT ALLOW THE AMT. OF LI IN THE OCTAHEDRAL POSITION TO BE CALCD., AND THUS, NO INFORMATION ON THE SUBSTITUTION OF LI ATOMS IN THE AL STRUCTURE COULD BE OBTAINED.

UNCLASSIFIED

Inorganic Compounds

USSR

UDC 546.66.32.776+546.66.35.776

GOLUB, A. M., PEREPELITSA, A. P., MAKSHIN, V. I., AGANIYAZOV, K., Department of Inorganic Chemistry, Kiev State University imeni T. G. Shevchenko

"Dimolybdates of Rare Earth Elements and Alkali Metals"

Ivanovo, IVUZ: Khimiya i Khimicheskaya Tekhnologiya, Vol 14, No 3, 1971, pp 328-331

Abstract: By measuring pH, electrical conductivity and solubility, the authors studied the ternary system $R(NO_3)_3-K_2MoO_4-H_2O$ where R is yttrium and scandium. It is found that two compounds are formed: $R_2(MoO_4)_3$ and $KR(MoO_4)_2$. Dimolybdates with the general formula $MR(MoO_4)_2$, where M is K and Rb, and R is Sc, Y, Tb and Er were synthesized from aqueous solutions for the first time. The thermographic behavior of these compounds was studied (the melting point and temperature of crystallization of x-ray amorphous residues were determined). Doby powder patterns were used for determining the interplanar spacing of $KY(MoO_4)_2$.

1/1

Adsorption

USSR

UEC: 542.8

SVETSOV, V.I., MAKINOV, A.I., GUSTERIN, V.P., Ivanovo Chemical Technological Institute, Ivanovo, Ministry of Higher and Secondary Specialized Education RSFSR

"Decay and Absorption of Carbon Monoxide in a Glow Discharge and in a High-Frequency Discharge"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 44, No 3, Mar 70, pp 814-816

Abstract: The authors studied the decay of carbon monoxide and its absorption by the walls of the discharge tube in a glow discharge and in a high-frequency discharge under various conditions. The absorption of the gas in the discharge determined by the rate of formation of active particles in the volume accompanying electron collisions. The difference in the shape of the absorption curves in high-frequency and glow discharges is due to the contribution of cathode vaporization to absorption in the latter case. The observed relationship between the rate of absorption and the rate of vaporization can be attributed to a physical adsorption process.

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1/2 050

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--THE PROBLEM OF ATTENUATION OF LASER RADIATION IN THE ATMOSPHERE -U-

AUTHOR--(04)-SAFRONOV, YU.P., SUKHANOV, YA.A., POLUARSHINOV, V.A.,
MAKSIUTOV, I.B.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL PRIKLADNOI SPEKTROSKOPII, VOL. 12, MAR. 1970, P. 450-454

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS, ATMOSPHERIC SCIENCES

TOPIC TAGS--ATTENUATION, LASER RADIATION, ATMOSPHERE, ATMOSPHERIC
TRANSPARENCY, HELIUM NEON LASER, AEROSOL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1989/1021

STEP NO--UR/0368/70/012/000/0450/0454

CIRC ACCESSION NO--AP0107535

UNCLASSIFIED

2/2 050

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0107535

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RESULTS OF EXPERIMENTAL STUDIES OF THE FINE STRUCTURE OF THE ATMOSPHERIC SPECTRAL TRANSPARENCY IN VERTICAL DIRECTIONS IN THE RADIATION WAVELENGTH RANGES OF RUBY (6943 A) AND HE-NE (6328 A) LASERS AT VARIOUS ZENITH SIGHTING ANGLES. IT IS SHOWN THAT ATTENUATION OF THE RADIATION OF THESE LASERS OCCURS MAINLY AS A RESULT OF SCATTERING BY GAS MOLECULES AND AEROSOLS. THE TRANSMISSION OF RUBY LASER RADIATION THROUGH THE ENTIRE THICKENSS OF THE ATMOSPHERE AMOUNTS TO A VALUE NO LESS THAN 0.8, WHILE THE CORRESPONDING VALUE FOR AN HE-NE LASER IS 0.6.

UNCLASSIFIED

USSR
Aerospace Medicine

USSR

UDC 613.693

MAKSOMOV, I. V., Candidate of Medical Sciences, Maj Med Serv, RITTER, V. V.,
and CHERNYAKOV, I. N., Doctor of Medical Sciences, Lt Col Med Serv

"Procedures for Preparing Oxygen-Nitrogen Gas Mixtures for Breathing in an
Altitude Chamber"

Moscow, Voyenno-Meditsinskiy Zhurnal, No 2, 1973, pp 65-68

Abstract: Apparatus for preparing hyperoxic and hypoxic gas mixtures during altitude chamber tests and the relevant nomograms have been developed. Environmental air is mixed with nitrogen and oxygen from two separate tanks in a T-junction before entering the altitude chamber. Gas feed is pressure-regulated by spray nozzles before the T-junctions. Spray nozzle pressure is preset to correspond with the needed final gas mixture parameters. Formulas for determining gas mixture consumption within 10-40 nanoliters/min are provided. Nomograms included can be used to determine the necessary feed rates of oxygen, nitrogen, and air when the total gas mixture feed rate and percent oxygen required are known, and to determine the percent oxygen content that corresponds to a particular simulated altitude.

1/1

Organophosphorus Compounds

USSR

UDC 543.847

MAKSUDOV, A. M., TADZHIBAYEV, YU., and AKRAMOV, S. T., Order of the Labor Red Banner Institute of the Chemistry of Plant Substances, Academy of Sciences Uzbek, SSR

"A Colorimetric Method for the Determination of Phosphorus in Organophosphorus Compounds"

Tashkent, Uzbekskiy Khimicheskiy Zhurnal, Vol 17, No 1, 1973, pp 16-18

Abstract: The following method for the determination of P in organophosphorus compounds was developed. The substance (9-10 mg) was oxidized by heating it in a test tube with 0.5 ml 10 N H_2SO_4 and a few drops of concentrated HNO_3 . On completed oxidation the contents of the test tube were heated to eliminate excess HNO_3 . The contents were diluted with distilled H_2O , whereupon the solution was neutralized with a 5% KOH solution and brought to 100 ml. One ml. of the solution was combined with 2 ml. of a solution prepared by reducing 5 ml of an ammonium molybdate solution in 10 N H_2SO_4 (5 g. ammonium molybdate in 50 ml solution) on addition of 35 ml H_2O with 1/2

USSR

MAKSUDOV, A. M., et al., *Uzbekskiy Khimicheskiy Zhurnal*, Vol 17, No 1, 1973, pp 16-18

2.5 g. $\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$ and diluting to 50 ml. The amount of P was determined by measuring the optical density on a photoelectric colorimeter with a red filter. A standard curve was used that was obtained by carrying out determinations on solutions prepared by diluting a solution of 0.04394 g. KH_2PO_4 in 1 l. H_2O , which contained 0.01 mg P per ml. The relative error in determinations was $\leq 0.3\%$. The method is suitable for the determination of P in organophosphorus pesticides.

2/2

- 7 -

USSR
Adsorption

USSR

UDC 661.728.82:663.63

GULYAMOV, T., RASHIDOV, B. R., MAKSUDOV, E., and AYKHCIDZHAYEV, B. I., Institute of Nuclear Physics, Academy of Sciences Uzbek, SSR

"Acetylcellulose Membranes for Reverse Osmosis"

Tashkent, Uzbekskiy Khimicheskii Zhurnal, Vol 17, No 3, 1973, pp 39-41

Abstract: A method was developed for the preparation of semipermeable membranes for reverse osmosis from cellulose acetate dissolved in dimethylformamide. The optimum conditions of preparing the membranes were evaporation of a solution containing 20% cellulose acetate + 80% dimethylformamide at 28-34° within less than 2 hrs, immersion in water for 2 min at 20-21°, and thermal fixation for 5 min at 81-86°. In tests conducted at 50 atm with a solution of 10 g NaCl/l., the efficiency of the membranes was 200-300 l./sq. m. per 24 hrs at a 95% degree of NaCl retention. When a solution with the composition cellulose acetate 20, dimethylformamide 75, H₂O 5% was used and thermal fixation was carried out at 86°, the efficiency increased to 500 l./sq. m. per 24 hrs while the degree of desalination remained at 94-95%. To increase the efficiency, the same inorganic additives as those used in the forming of membranes from acetone solutions of cellulose acetate could be

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USSR

GULYAMOV, T., et al., *Uzbekskiy Khimicheskiy Zhurnal*, Vol 17, No 3, 1973, pp 39-41

used (cf. S. Loeb and S. Sourirajan, *Adv. Chem. Soc.*, 38, 117, 1963), but the degree of salt retention dropped. It follows from this that the optimal conditions of forming must be determined experimentally in every instance.

2/2

- 1 -

1/3 017 UNCLASSIFIED PROCESSING DATE--20NOV79
TITLE--EPIDEMIOLOGY OF LATERAL AMYOTROPHIC SCLEROSIS -U-
AUTHOR--(02)--KHENDAKIAN, O.A., MAKSDOV, G.A.
COUNTRY OF INFO--USSR M
SOURCE--VESTNIK AKADEMII MEDITSINSKIH NAUK SSSR, VOL 25, NO 1, 1970
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--NERVOUS SYSTEM DISEASE, VIRUS DISEASE, LESION, EPIDEMIOLOGY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3003/1417 STEP NO--UR/0248/70/025/001/0083/0086
CIRC ACCESSION NO--AP0100104
UNCLASSIFIED

2/3 017

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0130364

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PROBLEM OF LATERAL AMYOTROPHIC SCLEROSIS (LAS) DATES BACK TO OVER 100 YEARS. CHARCOT AND A. YA. KOZHEVNIKOV FURNISHED A CLEAR CLINICAL AND PATHOMORPHOLOGICAL DESCRIPTION OF THE DISEASE, HAVING ASSERTED THE POSITION OF LESION TO THE ENTIRE CEREBROSPINAL AXIS. BUT TO THIS TIME, THE BASIC ISSUES PERTAINING TO ETIOLOGY AND PATHOGENESIS OF LAS REMAIN UNSETTLED. AS YET THERE ARE NO WORKS ON THE EPIDEMIOLOGY OF LAS IN THE SOVIET UNION. YET THIS IS A PROBLEM THAT MERITS ATTENTION. AT PRESENT, MUCH ATTENTION IS BEING GIVEN TO LATENT VIRAL INFECTIONS WITH A LONG INCUBATION PERIOD. THIS INCLUDES HUMAN KOKO DISEASE ENCOUNTERED IN NEW GUINEA IN THE FORE TRIBE. KOKO WAS FIRST DESCRIBED BY FAJUSEK IN 1958. THEREAFTER, GAJUSEK ET AL. PUBLISHED THE RESULTS OF INFECTING CHIMPANZEES, IN WHOM THE CLINICAL AND PATHOMORPHOLOGICAL FINDINGS CORRESPONDED TO THOSE IN MAN. FOR A NUMBER OF YEARS, THE INSTITUTE OF NEUROLOGY, USSR. ACADEMY OF MEDICAL SCIENCES, HAS BEEN CONDUCTING EXPERIMENTAL STUDIES ON MONKEYS TO INVESTIGATE LAS. THE PRELIMINARY RESULTS GIVEN REASON TO BELIEVE THAT THERE IS A POSSIBILITY OF LATENT INFECTION FOR THIS DISEASE. THEREFORE, INVESTIGATION OF THE EPIDEMIOLOGY OF LAS IS IMPORTANT, NOT ONLY FROM THE STANDPOINT OF DISTRIBUTION OF THE MORBIDITY, BUT ALSO IT CAN INDIRECTLY HELP SETTLE THE MOST DEBATABLE ISSUES DEALING WITH THE ETIOLOGY AND PATHOGENESIS OF THIS COMPLEX CONDITION IN THE LIGHT OF LATENT NEUROINFECTIONS. WE HAVE MADE THE FIRST ATTEMPT AT INVESTIGATION OF THE EPIDEMIOLOGY OF LAS.

UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0130304

ABSTRACT/EXTRACT--FOR THIS, ON BEHALF OF THE PROBLEM COMMISSION FOR THE MAIN DISEASES OF THE NERVOUS SYSTEM, WE ASKED THE HEADS OF THE CHAIRS OF NERVOUS DISEASES AT MEDICAL INSTITUTES, TO THE MANAGEMENT OF THE SCIENTIFIC RESEARCH INSTITUTES OF OUR COUNTRY TO SEND US BRIEF DATA ON LAS AND ITS SYNDROMES AS OBSERVED IN THE CLINICS OF THESE INSTITUTIONS WITHIN THE LAST 5-7 YEARS. WE RECEIVED INFORMATION FROM 60 INSTITUTIONS (52 CITIES) OF THE SOVIET UNION REFERABLE TO 1,834 PATIENTS (TABLE 1). THERE WERE 1,456 PATIENTS WITH LAS (918 MEN AND 538 WOMEN) AND 378 WITH THE LAS SYNDROME (260 MEN AND 118 WOMEN). FACILITY: INSTITUTE OF NEUROLOGY, USSR ACADEMY OF MEDICAL SCIENCES, MOSCOW.

UNCLASSIFIED

USSR

UDC 669.013.2-151.8:620.172

MUKHAMEDOV, A. A., and MAKUDOV, SH. SH., Tashkent Polytechnic Institute

"Investigation of the Post-Recrystallization Strength of a Previously Superheated Steel"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy--Chernaya Metallurgiya, No 6, Jun 73, pp 97-100

Abstract: The inheritance of the structural characteristics of previously superheated St. 3 and 45 steels was investigated. Superheating temperatures were 850, 930, 1000, 1100, 1200, and 1260°C. Repeated accelerated heating of samples 5 mm in diameter in a lead bath with subsequent quenching leads to a change in tensile strength. Strength and physical width of x-ray diffraction lines change with the change of superheating temperature and, although the structure can be refined by tempering, the steels still inherit the structure caused by superheating. 3 figures, 1 table, 9 bibliographic references.

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Miscellaneous

USSR

UDC 620.186.5

MUKHAMEDOV, A. A., and MAKSUDOV, SH. SH., Tashkent Polytechnical Institute and Tashsel'mash

"X-Ray Study of Inheritance of Fine Structure of Preliminarily Superheated Steel After Recrystallization"

Tashkent, Izvestiya Akademii Nauk Uzbekskoy SSR, No 5, 1970, pp 53-55

Abstract: This work presents a study of the change in fine structure during recrystallization of types 45, 40Kh, and 30KhGT steels. The specimens were preliminarily heated to 850-1260°C for 20-25 min, then cooled in air (normalized). The normalized specimens were reheated at various rates and holding times (in a lead bath, holding time 5 min, in furnace atmosphere -- 20 min and 2 hr) with subsequent quenching in oil or water, heated to 30-50°C. The hardened specimens were tempered at 200, 350, 450, 570, and 600°C. After heat treatment, sections were prepared and etched to remove work-hardened layers, and x-ray diagrams were made using Fe, K γ -radiation. It was established that the process

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USSR

MUKHAMEDOV, A. A., and MAKSUDOV, SH. SH., *Izvestiya Akademii Nauk Uzbekskoy, SSR*, No 5, 1970, pp 53-55

of recrystallization is accompanied by inheritance of the fine structure due to the thermal stability of dislocation structures, which change significantly during tempering. This can lead to variations in mechanical properties.

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- 85 -

Miscellaneous

USSR

UDC 620.186.5

MUKHAMEDOV, A. A., and MAKSUDOV, SH. SH., Tashkent Polytechnical Institute and Tashsel'mash

"X-Ray Study of Inheritance of Fine Structure of Preliminarily Superheated Steel After Recrystallization"

Tashkent, Izvestiya Akademii Nauk Uzbekskoy SSR, No 5, 1970, pp 53-55

Abstract: This work presents a study of the change in fine structure during recrystallization of types 45, 40Kh, and 30KhGT steels. The specimens were preliminarily heated to 850-1260°C for 20-25 min, then cooled in air (normalized). The normalized specimens were reheated at various rates and holding times (in a lead bath, holding time 5 min, in furnace atmosphere -- 20 min and 2 hr) with subsequent quenching in oil or water, heated to 30-50°. The hardened specimens were tempered at 200, 350, 450, 570, and 600°C. After heat treatment, sections were prepared and etched to remove work-hardened layers, and x-ray diagrams were made using Fe, K α -radiation. It was established that the process

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USSR

MUKHAMEDOV, A. A., and MAKSUDOV, SH. SH., *Investiya Akademii Nauk Uzbekskoy, SSR*, No 5, 1970, pp 53-55

of recrystallization is accompanied by inheritance of the fine structure due to the thermal stability of dislocation structures, which change significantly during tempering. This can lead to variations in mechanical properties.

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- 85 -

USSR

UDC: 620.186.5

MUKHAMEDOV, A. A. and MAKSUDOV, Sh. Sh.

"Inheritance of Fine Structures in Recrystallization and its Effect on the Durability of Steel"

Tashkent, Izvestiya akademii nauk Uzbekskoy SSR -- Seriya tekhnicheskikh nauk, No. 4, 1970, pp 47-48

Abstract: The inheritance of a fine structure in the recrystallization of steel changes the durability of the steel. This article investigates the change in steels of the 40Kh and 30KhGT types, specimens of which were normalized at temperatures of 870-1200°. After cooling, the 40Kh and 30KhGT specimens were heated repeatedly up to 870° and 880° respectively for 20 minutes and then tempered in oil at 200° C for one hour. X-ray pictures were taken with a KROS-1 camera. Specimens examined for friction effects were tested on an MI-1 machine for rolling friction with slippage. The results establish the linearity of the steel durability with tempering as a function of the width of the X-ray line, i.e., of the dislocation density in the crystal lattice of the steel.

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USSR

UDC 541.64:547.379

FAYZULLIN, I. N., MAKSUDOVA, T. M., SHAGIAKHMETOV, E. M., and NABIYEVA, D. I.

"Polysulfones of Phosphoric Acid Allyl Esters"

Moscow, Vysokomolekulyarnyye Soyedineniya, Vol 15, No 11, Nov 73, pp 2424-2428

Abstract: Reacting sulfur dioxide with allyl alkyl methylphosphonates and allyl aryl β -chloroethylphosphonates yields phosphorus containing polysulfones. Specific reaction temperatures were determined. The effect of the structure of phosphonate esters on the reaction temperature of the formation of polysulfones has been investigated, showing that branching in the chains of the starting monomers leads to lower specific temperature. The only exception noted was that of allyl aryl esters of chloroalkylphosphonic acid. Changing the position of a substituent in the aromatic ring showed no substantive effect on the value of specific temperature.

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USSR

UDC 678.85.03

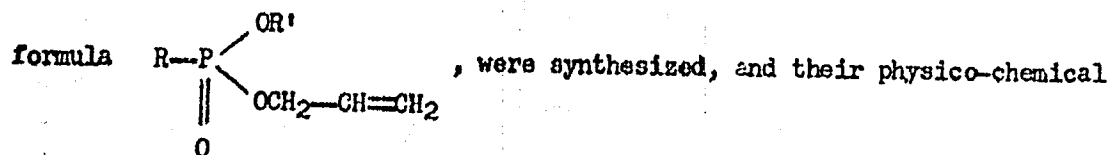
FAIZULLIN, I. N., ~~MAKSUDOVA, T. M.~~, ISUPOVA, A. I., FAYZZULLINA, D. A.,
ROMANOVA, T. I., and KUZNETSOV, YE. V.

"Allyl-Aryl Esters of Phosphorus Acids"

Moscow, Plasticheskiye Massy, No 2, Feb 72, pp 60-63

Abstract: A number of organophosphorus polymers are commonly obtained by polymerization of the allyl esters of the phosphorus acids. Since these polymers possess valuable properties, the synthesis of new phosphorus-containing monomers is a matter of practical interest.

Seven allyl-aryl esters of the phosphorus acids, having the general



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- 25 -

USSR

FAIZULLIN, I. N., et al., *Plasticheskiye Massy*, No 2, Feb 72, pp 60-63

characteristics (boiling point, phosphorus content, etc.) were determined. The esters were obtained from a two-stage reaction: 1) dichloroanhydride of phenylphosphoric acid with the corresponding alcohol, and 2) the corresponding acid chlorides of the esters with allyl alcohol in the presence of triethylamine in an ether medium.

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USSR

UDC 577.1:615.7/9

IKRAMOV, L. T., ALIMKHANOV, O. A., and MAKSUMOVA, Kh. B.

"Purification of Buthiphos in the Study of Biological Material"

V sb. Materialy Yubileyn. nauchn. konferentsii, posvyashch. 100-letiyu so dnya rozhd. V. I. Lenina. Tashkent. farmat-sevt. in-t, 1970 (Materials of the Anniversary Conference in Celebration of the 100th-birthday of V. I. Lenin, Tashkent. Pharmaceutical Institute -- Collection of Works), Tashkent, 1970, pp 254-256 (from RZh-Biologicheskaya Khimiya, No 3, Feb 71, Abstract No 3F2022)

Translation: Separation of extracts by thin layer chromatography on silica gel is proposed for the semiquantitative determination of butiphos [S,S,S-tributyltrithiophosphate] in biological media.

A. Ignatyev

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USSR

FAYZULLIN, I. N., FAYZULLINA, D. A., KUZNETSOV, Ye. V., GEFTER, Ye. L.,
ISUPOVA, A. I., MAKSUDOVA, T. M., Kazan' Chemical Scientific Research Insti-
tute

"Some Asymmetric Alkyl-Aryl Esters of Alkylphosphonic Acids (abstract of the
article)"

Leningrad, Zhurnal Obshchey Khimii, Vol 40 (102), No 11, Nov 70, p 2530

Abstract: The authors describe synthesis of chloride and allylaryl esters of
methyl-, chloromethyl- and β -chloroethylphosphonic acids. The synthesis was
done in two stages. In the first stage, methyl-, chloromethyl- and β -chloro-
ethylphosphonyl dichlorides are interacted with phenols to produce the corres-
ponding acid chloride esters. The second stage is interaction of the acid
chloride esters with allyl alcohol in the presence of pyridine. The synthe-
sized substances are colorless liquids which dissolve in organic solvents.

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USSR

UDC: 678.03:547.558.1

FAYZULLIN, I. N., MAKSUDOVA, T. M., NABIYEVA, D. I., and KUZNETSOV, YE. V.

"Synthesis of Diallyl Ethers of Arylphosphoric Acids"

Moscow, Plasticheskiye Massy, No 10, 1970, pp 16-17

Abstract: The synthesis was carried out in two stages. First phosphorus oxychloride was reacted with substituted phenols to yield phenylphosphoric acyl dichlorides. Next these dichlorides were condensed with allyl alcohol. The acyldichlorides were obtained at refluxing temperature, with continuous stirring. The temperature was elevated to 150°C after 4 hrs and kept there for one hour. A double distillation gave final products in 54-63% yield. Next step was carried out by mixing the dichlorides with allyl alcohol and pyridine at 0°C. The reaction was carried out at the refluxing temperature. A triple redistillation gave the products in 18-54% yield -- colorless or yellowish liquids rapidly darkening on storage in light; they were soluble in many organic solvents.

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- 52 -

1/2 019 UNCLASSIFIED PROCESSING DATE--02 OCT 70
TITLE--SYNTHESIS OF POLYSULFONES OF ALLYL ARYL ESTERS OF ALKYLPHOSPHONIC
ACIDS -U-
AUTHOR-(03)-FAYZULLIN, I.N., MAKSUDOVA, T.M., FAYZULLIN, D.A.
COUNTRY OF INFO--USSR
SOURCE--VYSOKOMOL. SOEDIN. SER. A 1970, 12(2), 430-3
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ORGANIC PHOSPHORUS COMPOUND, SULFONE, CHEMICAL SYNTHESIS,
HYDROPEROXIDE, THERMAL EFFECT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1989/0246 STEP NO--UR/0459/70/012/002/0430/0433
CIRC ACCESSION NO--AP0106904
UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0106904

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CH SUB2:CHCH SUB2 OP (O)R(OAR)
(WHERE R EQUALS ME, CH SUB2 CL, OR (CH SUB2) SUB2 CL AND AR EQUAL PH OR
RHO,CLC SUB6 H SUB4) (I) WERE TREATED WITH SO SUB2 IV TOLUENE SOLN.
CONTG. CUMENE HYDROPEROXIDE (II) AT MINUS 60DEGREES TO 20DEGREES TO GIVE
THE CORRESPONDING POLYSULFONES (MINUS CH SUB2 CHCH SUB2 OP (O)R(OAR) SO
SUB2 PRIME NEGATIVE) SUBN (III). INCREASING REACTION TEMP. REDUCED THE
SPECIFIC VISCOSITY OF III (R EQUALS CH SUB2 CL AND AR EQUALS PH OR
RHO,CLC SUB6 H SUB4). LIMITING (CEILING) TEMPS. ABOVE WHICH NO III
COMPS. WERE FORMED WERE MINUS 5 TO PLUS 20DEGREES WITH LITTLE EFFECT
FROM CL IN THE AR GROUP BUT HIGHER LIMITING TEMPS. WERE GIVEN BY BIGGER
R GROUPS. III (R EQUALS ME, AR EQUALS PH) (IV) WAS PREPD. BY GRADUALLY
ADDING A MIXT. OF 6.3 G I (WHERE R EQUALS ME, AR EQUALS PH), 8 SUB0.04
129DEGREES, AND 0.6 G II IN 30 G TOLUENE TO 90 TOLUENE SATD. WITH SO
SUB2 AT MINUS 60DEGREES TO GIVE 6.84 G IV, M. 65-70DEGREES. III COMPS.
PREPD. SIMILARLY IN 49-81PERCENT YIELD ARE (R, AR, M.P., AND B.P.-MM OF
CORRESPONDING I COMPD. GIVEN): CH SUB2 CL, PH, 68-70DEGREES,
143-5DEGREES-0.07; CH SUB2 CH SUB2 CL, PH, 65-67DEGREES,
150DEGREES-0.06; ME, RHO,CLC SUB6 H SUB4, 80-2DEGREES,
137-8DEGREES-0.05; CLCH SUB2, RHO,CLC SUB6 H SUB4, 67-8DEGREES,
138-9DEGREES-0.05; AND CLCH SUB2 CH SUB2, RHO,CLC SUB6 H SUB4,
85-7DEGREES, 158DEGREES-0.06. III PREPD. AT SMALLER THAN OR EQUAL TO
20DEGREES WERE POWDERS; THOSE PREPD. AT LARGER THAN MINUS 20DEGREES WERE
RESINOUS DARK MASSES.

UNCLASSIFIED

USSR

UDC 632.96

KAMILOVA, R. M., KHIKMATOVA, A., MAYOROV, S. A., MAKHSUMOV, A. G., SAFAYEV, A., and MIRZABAYEV, E. A.

"A Herbicide"

USSR Author's Certificate No 324025, filed 7 Oct 69, published 18 Feb 72
(from RZh-Khimiya, No 22, Nov 72, Abstract No 22N489 P)

Translation: It is proposed that 2,5-bis-(2,4,6-triiodophenoxymethyl) thiophene (I) be used as a high-quality herbicide. Pregermination treatment with compound I in a dose of 10 kilograms per hectare killed 100% of the weeds, (purslane, barnyard millet) without damage to cotton. T. A. Belyayeva.

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- 64 -

Pharmacology and Toxicology

USSR

MAKSUMOV, M. N., Tashkent Pharmaceutical Institute

"Change in the Pharmacological Effect of Drugs That Act on Gastric Motility and Secretion After Exposure to High Ambient Temperatures and Insolation."

Tashkent, Meditsinskiy Zhurnal Uzbekistana, No 2, 1971, pp 37-42

Abstract: Exposure of dogs with Pavlov's stomach, Heidenhain's stomach, or Basov's fistula to the sun's rays or high ambient temperatures markedly depressed gastric motility and secretion. Injection of drugs that normally stimulate these functions (morphine, coamide / cobalt (II), dichlorobis (nicotinamide) /, pilocarpine, carbocholine, histamine) 10 to 15 minutes before exposure to heat or immediately afterward resulted in a pronounced weakening of their pharmacological activity. The inhibitory effect of depressants (atropine, hexonium B / ammonium, hexamethylenebis / trimethyl-dibenzene-sulfonate /) was further intensified under the same conditions of administration.

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1/3 C3C UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--STABILITY OF A SYSTEM OF SELF GRAVITATING PARTICLES WITH AN
ANISOTROPIC DISTRIBUTION FUNCTION FOR RANDOM VELOCITIES RELATIVE TO
AUTHOR--MAKSUMOV, M.N.

COUNTRY OF INFO--USSR

SOURCE--DUSHANBE, DOKLADY AKADEMII NAUK TADZHIKSKOY SSR, VOL. XIII, NO. 2,
1970, PP. 15-18
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--DYNAMIC SYSTEM, PARTICLE DISTRIBUTION, MOTION STABILITY,
GRAVITATIONAL FIELD, STELLAR SYSTEM, VELOCITY DISTRIBUTION, ANISOTROPY,
DISTRIBUTION FUNCTION

CENTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1993/1886

STEP NO--UR/0425/70/013/002/0015/0018

CIRC ACCESSION NO--AT0114330

UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AT0114330

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DYNAMICS OF A SYSTEM OF NONCOLLIDING PARTICLES WHICH EXERT AN ATTRACTION ON ONE ANOTHER IN CONFORMITY WITH NEWTON'S LAW IS DETERMINED BY THE NATURE OF THE PARTICLE SPATIAL AND VELOCITY DISTRIBUTION. STUDY OF THE STABILITY OF SUCH SYSTEMS IS IMPORTANT FOR THE DYNAMICS OF STELLAR SYSTEMS IN WHICH A STUDY IS MADE OF SMALL DEVIATIONS OF THE DISTRIBUTION FUNCTION AND GRAVITATIONAL POTENTIAL FROM STIPULATED INITIAL VALUES WHICH SATISFY THE LINEARIZED BOLTZMANN AND POISSON EQUATIONS RESPECTIVELY. THE STABILITY OF A SYSTEM WITH A NONISOTROPIC DISTRIBUTION OF RANDOM VELOCITIES HAS ALREADY BEEN ANALYZED. WE DISCOVERED A SPECIFIC INSTABILITY CAUSED BY A QUITE STRONG ANISOTROPY IN VELOCITY DISTRIBUTION. THIS INSTABILITY IS DIFFERENT FROM JEANS INSTABILITY AND IS CAUSED BY THE RESONANCE INTERACTION OF PARTICLES WITH THE PERTURBATION WAVE FIELD. THIS ARTICLE IS THEREFORE DEVOTED TO THE INSTABILITY ASSOCIATED WITH ANISOTROPY OF THE DISTRIBUTION FUNCTION IN AN INFINITE DIFFERENTIALLY ROTATING SYSTEM OF NONCOLLIDING SELF GRAVITATING PARTICLES, HOMOGENEOUS ALONG THE AXIS OF ROTATION, FOR PERTURBATIONS OF THE SPIRAL WAVE TYPE. THE DIFFERENTIAL ROTATION, LIKE THE NONUNIFORMITY OF AN EXTERNAL MAGNETIC FIELD IN PLASMA PHYSICS, CAUSES DRIFT EFFECTS WHICH EXERT A CONSIDERABLE INFLUENCE ON THE INSTABILITY ASSOCIATED WITH THE ANISOTROPY OF THE DISTRIBUTION FUNCTION.

UNCLASSIFIED

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PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AT0114330

ABSTRACT/EXTRACT--IN PARTICULAR, FOR SMALL VALUES OF THE TRANSVERSE COMPONENT OF THE WAVE VECTOR, WHEN THE SYSTEM DENSITY CHANGES CONSIDERABLY IN A RADIAL DIRECTION IN A DISTANCE EQUAL TO THE WAVELENGTH, THE DRIFT EFFECTS CAN LEAD TO SUPPRESSION OF INSTABILITY OF A WAVE PROPAGATING IN THE DIRECTION OF ROTATION OF THE SYSTEM WITH AN ANGULAR (PHASE) VELOCITY GREATER THAN THE VELOCITY OF SYSTEM ROTATION. THE TEMPORAL BEHAVIOR OF THE PERTURBATION WAVE, PROPAGATING WITH A VELOCITY LESS THAN THE VELOCITY OF ROTATION OF THE SYSTEM, OR COUNTER TO THE SYSTEM, IN THE CASE OF STRONG DIFFERENTIAL ROTATION IS ALSO DETERMINED BY DRIFT EFFECTS AND NOT BY ANISOTROPY OF THE DISTRIBUTION FUNCTION. FACILITY: ASTROPHYSICAL INSTITUTE ACADEMY OF SCIENCES TADZHIK SSR.

UNCLASSIFIED

USSR

MELIYEV, A., MAKSUMOV, S. S., and ALIMBAYEV, E., Uzbek Scientific Research
Institute of Epidemiology, Microbiology, and Infectious Diseases

"Clinical and Epidemiological Characteristics of Hemorrhagic Fever in
Uzbekistan"

Tashkent, Meditsinskiy Zhurnal Uzbekistana, No 1, Jan '73, pp 35-38

Abstract: Hemorrhagic fever currently continues to be recorded in Uzbekistan every year, causing tens of lethalties. In 1950-69 approximately 400 foci of this disease were found in nine oblasts of the Uzbek SSR. As a rule, infections occur in rural regions among persons whose work brings them close to natural foci of the disease or who come into contact with tick-infested cattle. In 60% of cases of the disease, attachment of ticks preceded the infection, while in 37% of cases of patients infected in the course of agricultural work, attachment of ticks was not observed. The incidence is highest in Jun-Aug, while sporadic infections occur throughout the year. The seasonal curve of the incidence coincides with that of the prevalence of the ticks *Hyalomma anatolicum* and *Hyalomma plumbeum turanicum* which harbor and transmit the virus. Cattle are infested throughout the year with ticks that transmit the disease. Among the cases studied, 64% were acute, 30% of medium intensity, and 6% light. On the 3rd-4th day of the disease, hemorrhagic phenomena developed in 90% of the patients

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USSR

MELIYEV, A., et al., Meditsinskiy Zhurnal Uzbekistana, No 1, Jan 73, pp 35-38

against a background of pronounced toxicosis. A hemorrhagic rash was observed in 90% of cases and hemorrhages in the mucosa occurred in 58% of cases. Nose-bleeds, gastric hemorrhages, intestinal hemorrhages, uterine hemorrhages, bleeding of the gums, and bleeding from the ears occurred in 89, 41, 68, 53, 68, and 3% of cases, respectively. In more than 50% of cases the hemorrhages were profuse, particularly those from the gastro-intestinal tract. Some patients developed a meningeal syndrome, presumably because of cerebral hemorrhages. In the majority of cases, hypochromic anemia was observed in the peripheral blood. Thrombocytopenia occurred in 20% of cases. On the other hand, the coagulability of the blood, the duration of blood flow, and the prothrombin level remained unchanged. Recovery took place within 2-4 weeks. Death occurred on the 5th-9th day of the disease in connection with repeated internal hemorrhages that were in some cases accompanied by pneumonia. Most cases of death were in Jun-Jul. The high lethality from hemorrhagic fever in Uzbekistan is due to positive diagnosis of the disease in severe forms only and also to the fact that patients are transported over distances of 20-50 km in the acute hemorrhagic stage. A specific characteristic of the disease in Uzbekistan is its contagiousness; 3% of the patients become infected as a result of contact with other persons who have the disease. In instances of contagion,

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USSR

MELIYEV, A., et al., Meditsinskiy Zhurnal Uzbekistana, No 1, Jan 73, pp 35-38

the disease was usually accompanied by a pronounced hemorrhagic syndrome and had a lethal outcome in the majority of cases. The virulence of the causative factor was apparently increased in cases of transmission from one person to another. The mechanism of infection in such cases also presumably contributed to the increased severity of the disease.

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USSR

MELIYEV, A., LEBEDEV, A. D., AVAKYAN, A. A., and MAKSUMOV, S. S., Uzbek Scientific Research Institute of Epidemiology, Microbiology and Infectious Diseases; Institute of Epidemiology and Microbiology imeni N. F. Gamaleya, Academy of Medical Sciences USSR; and Institute of Scientific Information, Academy of Sciences USSR

"Carriers of Hemorrhagic Fever in the Uzbek SSR"

Tashkent, Meditsinskiy Zhurnal Uzbekistana, No 4, 1971, pp 15-18

Abstract: Twenty-six species of Ixodid ticks were discovered in regions of Uzbekistan where hemorrhagic fever had been recorded. They belonged to the genera Hyalomma, Dermacentor, Rhipicephalus, Haemaphysalis, Ixodes, Boophilus, and the Argasidae family. The seasonal fluctuation in incidence of hemorrhagic fever corresponds to the curve of seasonal population density of Hyalomma anatolicum, which predominates in most regions of the republic in foci of the disease and is, according to most investigators, the principal carrier and vector of the virus. Other widespread species include H. detritum, H. plumbeum, H. asiaticum, and D. daghestanicus. The ticks develop mainly in cowsheds and other shelters for farm animals, from which they invade human dwellings. The virus most probably exists in the system of H. plumbeum turanicum, which.

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MELIYEV, A., et al, Meditsinskiy Zhurnal Uzbekistana, No 4, 1971, pp 15-18

living on livestock together with *H. anatolicum* and *H. detritum*, passes the virus on to them. Final solution of the question of vectors and reservoirs of the virus, and measures for fighting the infection require virological studies of the fauna of various localities by entomologists and epidemiologists.

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- 29 -

USSR

YAKUBOV, Sh. Kh., SEMENOV, B. F., ~~MAKSUMOV, S. S.~~, KARASEVA, P. S., SADYKOVA, V. D., and CHUNIKHIN, S. P., Institute of Poliomyelitis and Viral Encephalitis Academy of Medical Sciences USSR; and Uzbek Scientific Research Institute of Epidemiology, Microbiology, and Infectious Diseases

"Serological Data on the Circulation of Virus of the Tachina Fly (Larvaevoridae) in the Uzbek SSR"

Tashkent, Meditsinskiy Zhurnal Uzbekistana, No 4, 1971, pp 27-30

Abstract: A serological study was carried out to determine the possible foci of the Tachina virus in Uzbekistan. Human and domestic animal sera were collected in Tashkentskaya, Surkhandar'yinskaya, Samarkandskaya and Kashkadar'inskaya Oblasts, and in the Karakalpak Autonomous Soviet Socialist Republic. Virus-neutralizing antibodies were found in all areas studied in 16.7% of the human population and 15.5% of animals with titers of 1:10-1:80. Immunity was lower in people inhabiting mountainous and foothill regions than in the plains, except for Kashkadar'yinskaya oblast', where the percentage of antibodies in the plains was lowest probably because of weakly developed irrigation and resultant lesser number of flies. Statistically, immunity was higher among older inhabitants. The presence of antibodies proved that the virus

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USSR

YAKUBOV, SH. Kh., et al, Meditsinskiy Zhurnal Uzbekistana, No 4, 1971,
pp 27-30

does circulate within Uzbekistan, as it apparently also does in other southern
regions of the USSR, where investigations showed similar results.

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- 38 -

USSR

UDC 576.858.21.095.38:576.858.23

MAKSUMOV, S. S., Uzbekh Scientific Research Institute of Epidemiology, Microbiology and Infectious Diseases

"The Interference Phenomenon Between the Street Rabies Virus and Poliomyelitis Virus in Tissue Cultures"

Moscow, Laboratornoye Delo, No 4, 1970, pp 223-225

Abstract: A model for laboratory diagnosis of rabies based on the interference phenomenon was developed. An attenuated strain of poliomyelitis virus type I was used as the interfering virus. Studies were carried out in cell cultures, on transplanted HeLa and Hep-2 cell lines and in primary trypsinized cultures of human embryo skin-muscle tissue. The cultures were infected by a strain of street rabies virus in high titre. Experimental results indicate that street rabies virus inhibits the cytopathic effect of the attenuated strain of poliomyelitis virus for 1-2 days, in comparison to controls. Evidently the interference phenomenon may be used for laboratory diagnosis of rabies.

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M Epidemiology

AVAKYAN, A. A., MAKSIMOV, S. S., and MELIKOV, A., Institute of Epidemiology and Microbiology, USSR Academy of Medical Sciences, and Uzbek Institute of Epidemiology, Microbiology, and Infectious Diseases

"ESHO-19 Virus Isolated from Ticks Collected in Hemorrhagic Fever Centers"

Tashkent, Meditsinskiy Zhurnal Uzbekistana, No 1, 1971, pp 29-31

Abstract: Despite extensive research in the USSR and abroad, the etiology of tropical hemorrhagic fevers is not known. *H. asiaticum* ticks, collected in hemorrhagic fever centers in Uzbekistan, were studied. Adult ticks were treated with ether and alcohol, washed with sterile saline, crushed in a mortar with sterile sand, and centrifuged. The supernatant fluid was used to inoculate various tissue cultures. The virus strains were identified with a set of sera by titrating the virus and neutralizing its antibodies. A portion of the culture fluid mixed with O-group human erythrocytes was used for the hemagglutination and hemadsorption reactions. The virus detected in human fibroblasts had a definite cytopathic effect, as well as in cultures of rhesus monkey kidney, human embryonic kidney, human amniotic cells, Hela, HEp-3, and Detroit-6. Virus induced complete degeneration of a monolayer of cells within 24-48

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USSR

AVAKYAN, A. A., et al., Tashkent, Meditsinskiy Zhurnal Uzbekistana, No 1, 1970, pp 29-31

hours. No cytopathologic effects were observed in cultures of chick embryo fibroblasts, HEp-2, and L-cells. When material from these tissues was transferred to susceptible tissues, no cytopathologic effects were observed, indicating the absence of latent infection. Fluid obtained from susceptible cultures had hemagglutinating and hemadsorbing properties. The isolated virus was resistant to ether and thermal inactivation. In view of these properties, the virus was classified among the intestinal group of viruses. For ultimate identification, the neutralization reaction was performed: the virus was completely neutralized by only one serum containing antibodies against ECHO-19 virus. A cross-hemagglutination inhibition reaction yielded the same result. Cells infected with the virus contained cytoplasmic inclusions consisting of virus particles. The possibility of the cultures being contaminated with ECHO-19 virus from other sources was ruled out. The fact that the intestinal ECHO-19 virus was isolated from ticks is significant and worthy of further investigations.

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USSR

UDC 621.165.74.001.5

MAKSUTOVA, M. K., VAVILOV, G. A., TARASOV, V. N., Kazan Aviation Institute

"Influence of Geometry of Turbine Blades on Structure of Flow Before Wheel"

Moscow, Teploenergetika, No 11, Nov 72, pp 37-40

Abstract: This work presents an experimental estimate of the influence of elements of the geometry of the drivewheel of a turbine on the distribution of parameters in the axial gap between the nozzle apparatus and the drivewheel. In stages with identical nozzle apparatus but different methods of twisting of drive blades, the difference in the distribution of parameters around the radius in the space between crowns is significantly less than the difference between calculated and actual values. In stages with untwisted blades, as the rotating frequency decreases, a significant increase is noted in the difference between calculated and experimental values of parameters. The distribution of parameters in stages with broad twisted blades remains practically unchanged as the rotating frequency decreases. In a stage with a rim around nontwisting blades, a change in relative radial clearance of 2-5% has little influence on the nature of change of the flow parameters. As the radial clearance increases, the divergence between calculated and true parameters increases. The absolute

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USSR

MAKSUTOVA, M. K., et al., Teploenergetika, No 11, Nov 72, pp 37-40.

velocity increases significantly; therefore, in planning stages with large radial clearances, it is desirable to consider the influence of clearance on angles of attack. When drive blades do not have rims, an increase in clearance causes reinforcement of radial leakage, and the difference between calculated and true values of parameters increases.

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- 70 -

1/2 009 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--5175C FRUCTOSE DECOMPOSITION IN AN ALKALINE SOLUTION AT HIGH
TEMPERATURES -U-
AUTHOR-(03)-KOLESNIKOV, V.A., MAKSVUTOV, V.A., DOBROVOLSKAYA, L.N.
COUNTRY OF INFO--USSR
SOURCE--IZV. VYSSH. UCHEB. ZAVED. PISHCH. TEKHNOL. 1970, (1), 42-4
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--FRUCTOSE, THERMAL DECOMPOSITION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1997/1089 STEP NO--UR/0322/70/000/001/0042/0044
CIRC ACCESSION NO--AT0119948
UNCLASSIFIED

2/2 009

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AT0119948

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DECOMPN. OF DIL. ALK. FRUCTOSE
SOLNS. WAS INVESTIGATED. THE DECOMPN. RATE INCREASES WITH INCREASING PH
AND TEMP., AND ON ADDN. OF NH SUB4 CL. SMALL AMTS. OF SO SUB2 STABILIZE
THE SOLNS. FACILITY: KRASNODAR. NAUCH. ISSLED. INST. PISHCH.
PROM., KRASNODAR, USSR.

UNCLASSIFIED

USSR

MAKSYMOVYCH, M. B.

"Concerning the Article 'The Effect of Ribonuclease on Fixed Rabies Virus,' by E. F. Fedyuk"

Kiev, Mikrobiologicheskii Zhurnal, Vol 33, No 3, May / Jun 71, pp 394-395

Abstract: In a letter to the editor, M. B. Maksymovych calls attention to the article published in the sixth issue of Mikrobiologicheskii Zhurnal, 1970, by E. F. Fedyuk, in which Fedyuk disputed the conclusions arrived at by Maksymovych and his associates. The Maksymovych group stated that administration of ribonuclease to animals infected with rabies virus tends to neutralize the virus-specific nucleic acids which spread the infection, but that a better prophylactic effect is obtained through the combined application of both ribonuclease and antirabies gamma globulin. On the basis of these conclusions, Fedyuk writes, there is no reason not to assume that ribonuclease alone could induce the desired prophylactic effect, an effect which has not been confirmed by his own investigations.

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USSR

MAKSYMovyCH, M. B., Mikrobiologicheskiy Zhurnal, Vol 33, No 3,
May / Jun 71, pp 394-395

Maksymovych points out that the misinterpretation of his conclusions is largely due to Fedjuk's failure to take into consideration the dual character of the rabies infectious process, which is initiated by viral nucleic acids and later joined by the mature virus particle. However, the antibodies which neutralize the virus particle are ineffective against the nucleic acids, and are unable to arrest the infectious process. This is the reason that the combined administration of ribonuclease and gamma globulin is necessary to obtain the desired prophylactic effect.

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- 11 -

1/2 019 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--NUCLEAR QUADRUPOLE RESONANCE NQR IN A STUDY OF MOLECULAR COMPOUNDS
-U-
AUTHOR--(03)-MAKSYUTIN, YU.K., GURYANOVA, YE.N., SEMIN, G.K.
COUNTRY OF INFO--LSSR
SOURCE--USP. KHIM. 1970, 39(4), 727-51
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, PHYSICS
TOPIC TAGS--QUADRUPOLE MOMENT, NUCLEAR RESONANCE, SPECTROSCOPY, COMPLEX
COMPOUND, ELECTRON ACCEPTOR, HYDROGEN BONDING
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3002/1111 STEP NO--UR/0074/70/039/004/0727/0751
CIRC ACCESSION NO--AP0128538
UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0128538

ABSTRACT/EXTRACT--(U) GP-C- ABSTRACT. A REVIEW WITH 07 REFS. THROUGH 1968, COVERING THE GENERAL METHODS OF NQR SPECTROSCOPY, THE NATURE OF NQR SPECTRA IN COMPLEXES WITH CHARGE TRANSFER CHARACTERISTICS, COMPLEXES FORMED BY SUBSTANCES WITH DIFFERENT TYPES OF ELECTRON ACCEPTORS, AND THE H BONDED SUBSTANCES. FACILITY: INST. ELEMENTORG. SOEDIN., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 547.241'341

FEDOROVA, G. K., ANAN'YEVA, L. G., KONONENKO, I. M., MAKSHUTINA, L. I., and KIRSANOV, A. V.

"Derivatives of β -Chloroalkyl- and Alken-1-ylphosphonic and Thiophosphonic Acids"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 3, Mar 73, pp 538-543

Abstract: Heating β -chloroalkylphosphonic acids with sodium in octane yields monosodium salts of these acids which upon solution in water split along the C-P bond. Alkoxylation of β -chloroalkylthiophosphonic acid dichlorides with alcohols in presence of acrylonitrile yields diesters of β -chloroalkylthiophosphonic acids, while alkoxylation with sodium alkoxides -- the diesters of alken-1-ylthiophosphonic acids. Amidation of β -chloroalkylphosphonic acid dichlorides with aliphatic amines produces diamides of alken-1-ylphosphonic acids, and the use of aromatic amines leads to the formation of the diamides of β -chloroalkylphosphonic acids. The reaction of triethylamine with β -chloroalkylthiophosphonic acid dichlorides yields the dichlorides of alken-1-ylphosphonic and alken-1-yl-thiophosphonic acids.

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Acc. Nr:

AP0050807

Abstracting Service:
CHEMICAL ABST. J-70

Ref. Code:

UR0339

M

102070b Effect of purification processes on the thermal stability of carbonated juices. Kolesnikov, V. A.; Maksymov, V. A.; Dobrovolskaya, L. N. (USSR). *Sakh. Prom.* 1970, 44 (1), 18-22 (Russ). The content of reducing sugars, pH, color, salts, N, colloids, the filtration rate, and vol. of the ppt. were examd. for a crude juice after the 1st and 2nd carbonation and as thick juice after 5 different purification processes: cold carbonation, hot carbonation, hot defecation, cold-hot slow defecation, and the normal procedure used in the Korenovsk factory. The feasibility of finding the best treatment is demonstrated, in this case cold-hot slow defecation. Olaf Thomsen

REEL/FRAME
19810809

USSR

UDC 615.9:678.743

M
MAKULOVA, I. D., Institute of Labor Hygiene and Occupational Diseases, Leningrad

"Data on the Poisoning With Fluorocarbon Aerosol (Teflon Fever)"

Moscow, Gigiyena Truda i Professional'nyye Zabolevaniya, No 3, 1970, pp 27-31

Abstract: Polymer fever may be caused by products of thermal treatment of fluorocarbon and by aerosols of it. In symptoms polymer fever is similar to fever induced by metal particles. The disease develops at various periods, some symptoms appearing 2-3 hrs after exposure and some in 10-12 hours. Most often the symptoms include headache, weakness, dry cough, dyspnea, chills and tightness in chest. The fever is accompanied by tachycardia, rapid breathing, and on occasion slight elevation of blood pressure. Slight neutrophil leukocytosis is observed. The upper respiratory tract and lungs showed no pathological changes. After a day, the patients became normal. Temporary teflon fever does not result in any complications.

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1/2 028 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--SOME DATA ON THE FLUOROPLAST AEROSOL POISONING (TEPHLON FEVER) -U-
AUTHOR--MAKULOVA, I.D. M
COUNTRY OF INFO--USSR
SOURCE--GIGIYENA TRUDA I PROFESSIONAL 'NYE ZABOLEVANIYA, 1970, NR 3, PP
27-31
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--POISON, PLASTIC, INDUSTRIAL HYGIENE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1985/0334 STEP NO--UR/0391/70/000/003/0027/0031
CIRC ACCESSION NO--AP0100821
UNCLASSIFIED

2/2 028

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0100821

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. UNDER OBSERVATION WERE 12 PATIENTS, VICTIMS OF POISONING IN THE COURSE OF THE FLUOROPLAST PROCESSING. IN MOST CASES THE AFFECTION DEVELOPED DURING THERMAL TREATMENT OF THE FLUOROPLAST AND IN SOME PATIENTS IT DECLARED ITSELF FOLLOWING EXPOSURE TO THE EFFECT OF FINE, DISPERSED COLD FLUOROPLAST DUST. AS REGARDS ITS CLINICAL MANIFESTATION THE POLYMER INDUCED FEVER CLOSELY RESEMBLES THE ONE PRODUCED BY METALS. THE DISEASE STRATS 2 TO 12 HOURS AFTER THE INITIAL EXPOSURE TO THE DUST.

UNCLASSIFIED

Extraction and Refining

USSR

UDC 621.791.85

SUNDYREV, I. A., and MAKUNIN, M. S., Moscow

"Formation of Metal Drops During Electron Beam Melting of Metals"

Moscow, Fizika i Khimiya Obrabotki Materialov, No 3, May/Jun 73, pp 53-57

Abstract: The radius of drops can be calculated from formula $R = K \sqrt[8]{Q}$ where K is the formation coefficient of drops, which is a constant value under given conditions, and which depends only on the physical properties of the metal, $\text{cm}(\text{sec/g})^{1/8}$; Q is the rate of melting. This equation relates the size of metal drops formed on the electrode to the physical properties of the metal and the rate of metal melting. The density of the metal has the strongest influence on the radius of drops. Viscosity and surface tension, as well as the rate of melting have very little effect on the size of drops. The size of drops does not depend on the shape of the electrode surface. Theoretical conclusions were verified experimentally during melting of molybdenum and nickel. Many points in this article are debatable and the whole subject needs further study.

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USSR

UDC 621.791.85

MAKUNIN, M. S., ZHELADNOV, V. I., TYUPOV, G. G., FILIPPOV, A. F., and
SUNDYREV, I. A., Moscow

"Elimination of Nitrogen and Oxygen From Chromium-Nickel Alloys During Electron
Beam Smelting"

Moscow, Fizika i Khimiya Obrabotki Materialov, No 1, Jan/Feb 73, pp 39-43

Abstract: Oxygen was removed from Ni-Cr-Ti alloy during a 5-min-long exposure to an electron beam when the surface temperature of the molten metal was 1600-1620°C. The residual concentration of oxygen was 0.001%, regardless of the initial oxygen concentration. Metallographic analysis of the initial and refined metal showed that oxygen was present in this alloy in the form of a complex spinel consisting of Cr_2O_3 , Al_2O_3 , and TiO_2 (if Ti is present). The refined metal was purer and the inclusions in it were distributed more uniformly. In order to decrease the concentration of nitrogen in Ni-Cr alloy from 0.099-0.047 to 0.02-0.01%, a 20-minute exposure of molten metal to the electron beam was required. For nickel alloys containing 8 and 20% Cr, the elimination of nitrogen amounted to 30-40%. The addition of 1.5% Ti to nickel alloy containing 8% Cr did not change the elimination kinetics of nitrogen. However, the purification rate of the alloy containing 20% Cr and 2% Ti from nitrogen was 1/2

USSR

MAKUNIN, M. S., et al, Moscow, Fizika i Khimiya Obrabotki Materialov, No 1, Jan/Feb 73, pp 39-43

higher compared with the same alloy without Ti. A sharp decrease in the concentration of oxygen and nitrogen during melting of the electrode and a short exposure of molten metal to the electron beam showed that this method of refining of metals has many advantages. The largest amount of gases were removed from the thin layer of molten metal during the fusion of the electrode and from molten metal drops. The rate of elimination of nitrogen from the molten metal is controlled by the mass transfer processes.

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- G1 -

USSR

UDC 669.285'27:620.17

PAVLOV, I. M., FALALEYEVA, Z. S., ~~MAKUNIN, M. S.~~, and SHELEST, G. Ye.,
Institute of Metallurgy, Academy of Sciences USSR

"Effect of Tungsten on Structure and Properties of Electron-Beam-Melted
Molybdenum"

Vliyaniye vol'frama na strukturu i svoystva molibdena elektronoluchevoy
plavki (cf. English above), Moscow, 1971, 13 pp, ill, bibliography with 12
titles, No 3334-71 Dep (from RZh-Metallurgiya, No 1, Jan 72, Abstract No
11779 DEP by authors)

Translation of Abstract: The authors investigated vacuum-melted Mo with
0.7-10% W. Ingots were processed by extrusion through an eyelet. The
microhardness of as-cast and as-deformed alloys was determined. The mechani-
cal properties of alloys (short-term fracture) were determined at 500, 600,
700, and 1000°. The minimum microhardness for cast alloys is obtained with
0.7-2.0% W. To judge by microhardness, all melts after extrusion were more
homogeneous than as-cast. Softening of the investigated alloys occurs in
the 700-1000° range. The optimum combination of strength and plastic prop-
erties at room temperature is observed in the alloy with 2% W. Three
illustrations. Bibliography with 12 titles.

I/1

USSR

M

UDC 621.373.029.52(088.6)

MAKURIN, P. S., MIRONOV, V. A.

"Infralow Frequency Generator"

USSR Author's Certificate No 240758, Filed 2 Dec 67, Published 14 Nov 70
(from RZh-Radiotekhnika, No 9, Sep 70, Abstract No 9D290P)

Translation: In a low-frequency number generator (see RZhRIE, 1967, 12D351), in order to simplify and improve the reliability, it is proposed that the outputs of both RC-circuits be connected to the input of a comparator via diodes and the control circuits of both current switches be connected to the comparator output.

AA0016920

UR 0482

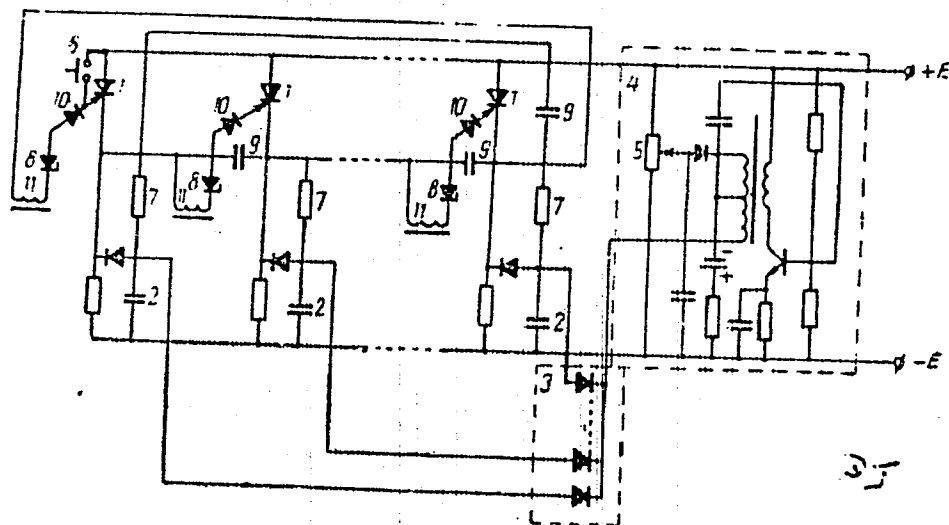
Soviet Inventions Illustrated, Section II Electrical, Derwent, 12/

235099. MULTICHANNEL THYRISTOR COMMUTATOR when knob (b) is depressed the supply voltage is applied to RC network (7) and (2) and to the control network of the second channel, but the thyristor does not switch on because break down voltage of the stabiliser (8) is higher than supply voltage. When the voltage on the condenser (2) reaches threshold of the comparator (4), this sends a pulse through the diode (3) which switches on second channel, while first disc switch is switched off by commutating capacitor (9). Process stop by stop repeats itself. Diodes (10) are safeguarding controlling electrodes of the thyristors (1).

2.12.67. as 1201302/18-24, MAKURIN, P.S. and MIRONOV, V.A. (3.6.69) Bul. 5/16.1.69. Class 21a, Int. Cl. H 03k.

19600041

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19600042

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UDC 621.791.52:434:669.15-194:621.78

MAKURIN, V. A., Engineer, Scientific Research Institute of Bridges

"Fatigue Strength of Heat Treated 15KhSND Steel and Its Welded Joints"

Moscow, Svarochnoye Proizvodstvo, No 11, Nov 70, pp 32-34

Abstract: Fatigue strength studies were performed using three types of flat specimens: base metal; three series of welded joints with unprocessed butt seam surfaces; and three series with mechanical working of the point of attachment of the seam to the base metal. Type-15KhSND steel of strength classes S-50 and S-40 in the thermally hardened or normalized states has satisfactory fatigue strength. The effectiveness of thermal hardening is decreased with increasing strength characteristics. Equality of welded joint and base metal strength can be achieved by using welding modes, materials, and mechanical processing designed to increase seam strength.

1/1

1/2 026 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--NONLINEARITY OF THE REVERSIBLE ORIENTATION OF PHOTOCHROMISM -U-
AUTHOR--(02)-MAKUSHENKO, A.M., STOLBOVA, O.V.
COUNTRY OF INFO--USSR
SOURCE--OPT. SPEKTR. 1970, 28(3), 600-1
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS, MATERIALS
TOPIC TAGS--LIGHT REFLECTION, LIGHT TRANSMISSION, VISCOUS FLUID, DYE,
DICHROMISM
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3002/1104 STEP NO--UR/0051/70/028/003/0600/0601
CIRC ACCESSION NO--AP0128531
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2/2 026

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0128531

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A NEW ANAL. FORMULA FOR STATIONARY ORIENTATION DICHOISM (D SUBST) WAS DERIVED. THE RELATION DESCRIBES SATISFACTORILY THE D SUBST-N SUBOR DEPENDENCE (N SUBOR IS THE QUANTUM INTENSITY OF THE ORIENTING LIGHT) FOR VISCOUS SOLNS. SUCH AS GLYCEROL SOLNS. OF CONGO RED OR P-OMC SUB6 H SUB4 NME SUB2.

UNCLASSIFIED

Hydraulic & Pneumatic

USSR

BELOUSOV, A. I., MAKUSHIN, A. B., GRANIN, S. S., RAVICH, A. V.

"Experimental Study of Flow Characteristics of Dual Radial Hydrostatic Bearing with Self Choking"

Tr. Kuybyshev. Aviats. In-t [Works of Kuybyshev Institute of Aviation], 1972, No 51, pp 99-115 (Translated from Referativnyy Zhurnal Mekhanika, No 5, 1973, Abstract No 5B709, by A. I. Snopov).

Translation: A description and experimental results are produced of a study for determination of the flow rate in a dual hydrostatic bearing with self choking. The bearing has pockets on the shaft, with oil fed into the pockets through apertures in the bushing from a common circular chamber. The apertures are covered with a cylindrical sleeve, rigidly connected to the shaft so that the oil, before entering the feed holes, flows through a circular slit of variable thickness, depending on the displacement of the shaft. The case of symmetrical two-row feed with four chambers per row (dual bearing) is studied. The length of each working portion of the bearing is 55 mm, the shaft diameter is 50 mm. Assuming that the flow rate depends little on eccentricity, tests were performed for the case when the shaft touches the bushing ($\epsilon = 1$). The

1/2

USSR

Belousov, A. I., Makushin, A. B., Granin, S. S., Ravich, A. V., Tr. Kuybyshev. Aviats. In-t, 1972, No 51, pp 99-115.

pressure was varied from 0 to 2 kg/cm². The properties of the oil are not indicated.

Twelve graphs are presented of the dependence of oil flow rate through each end and the summary flow rate as functions of the distance from the pockets to the end, as well as 8 graphs of the dependence of these flow rates on feed pressure for various shaft positions. A significant divergence is noted between theoretical and experimental data on flow rate for each end, and good (within 10%) agreement is noted for summary flow.

Also, certain results of static testing of an individual bearing with self choking with shaft diameter 150 mm are presented, including 5 graphs of loading and flow rate characteristics, the dependences of pressure in the end gap at the exit from the bearing on fluid feed pressure at the input, which reached 100 kg/cm².

2/2

- 126 -

USSR

UDC: 629.78.018.3

BELOUSOV, A.I., MAKUSHIN, A.B., GRANIN, S.S. and RAVICH, A.V.

"Experimental Investigation of Flow Rate Characteristic of Coupled Radial Selfthrottling Hydrostatic Bearing"

Kuybyshev, Tr. Kuybyshev. Aviats. In-ta (Transactions of Kuybyshev Aviation Institute), 1972, vyp 51, pp 99-115 (from Referativnyy Zhurnal-Raketostroyeniye, 1973, Abstract No 4, 41, 264 by T.A.E.).

Translation: Hydrostatic bearings can support heavy loads without rotation of the shaft. However, this involves a relatively high rate of flow through the bearing, increases operating cost of high-power units and reduces their efficiency. With some designs high losses of liquid cannot be tolerated. In such cases the hydrostatic support functions as a bearing and as a seal. At this time, designs of low-flow hydrostatic bearings have been developed. One of such designs is the selfthrottling radial hydrostatic bearing. Investigation results are presented of flow-rate characteristic of a coupled selfthrottling bearing consisting of a block of bearings with a common supply of liquid. 15 illustrations. 1 reference.

1/1

- 90 -

UNCLASSIFIED
TITLE—OFFICER CADETS REPLY TO TRAINING QUESTIONNAIRE -U-
AUTHOR—(02)—SHCHELOKOV, A., MAKUSHIN, R.
COUNTRY OF INFO—USSR
SOURCE—MOSCOW, KRASNAYA ZVEZDA, RUSSIAN, 17 JANUARY 1970, P 3
DATE PUBLISHED—17JAN70
SUBJECT AREAS—BEHAVIORAL AND SOCIAL SCIENCES
TOPIC TAGS—MILITARY SCHOOL, SOCIAL SCIENCE, SOCIAL PROBLEM, SURVEYING
CONTROL MARKING—NO RESTRICTIONS
DOCUMENT CLASS—UNCLASSIFIED
PROXY REEL/FRAE—1987/1921
CIRC ACCESSION NO—AN0104995
STEP NO—UR/9008/70/000/000/0003/0003
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